ABSTRACT

PROSPECTIVE STUDY OF ROLE OF PORTAL VENOUS DOPPLER IN PREDICTING CAPILLARY LEAK SYNDROME IN DENGUE FEVER PATIENTS

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AIM:

- To evaluate the ultrasonographic features of capillary leak syndrome in dengue fever patients.
- To investigate the role of Doppler study of the portal vein as a predictor for capillary leakage in dengue fever serology positive patients.
- To compare and correlate the portal venous Doppler findings with the laboratory findings and clinical outcome.

MATERIALS AND METHODS:

A Prospective Cohort Study was conducted in 100 Patients with Acute fever, clinical symptoms and signs of dengue with laboratory evidence of thrombocytopenia, NS1 and IGM Positivity for a period of 6 months in Department of Radiodiagnosis, Govt. Kilpauk Medical College Hospital, Kilpauk, Chennai. Grey scale and colour Doppler ultrasound were performed in patients with 4-6 hrs at the time of admission.

Acute Fever patients with thrombocytopenia, IGM positive and NS1 positive were included and Patient with Chronic liver disease, MP/Mf positive, known case of Hypoalbuminemia, and Hypotension, were excluded from the study sample.

Portal vein diameter, Flow velocity, Cross sectional area were measured at the level of liver hilum. Congestive Index was calculated by Cross sectional area / portal venous velocity. Check was made of associated features like Ascites, Pleural effusion, Gallbladder wall edema.

RESULTS:

90% of the patients developed capillary leak syndrome and showed mean portal diameter of 12.88mm, mean portal velocity of 18.27cm/s and mean congestive index of 0.0972. The sensitivity and specificity of congestive index (0.07 as cut off) were 56% and 100%, portal diameter (>11.2cm as cut off) were 75% and 70%, PV velocity (<25 cm /s as cut off) were 93% and 60%.

CONCLUSION

Dengue fever patients with evidence of decreased portal venous velocity, Increased portal vein diameter and increased congestion index were more prone for developing capillary leak syndrome. These measurements predicted CLS earlier than clinical and laboratory evidence thus aiding in early treatment and thus decreasing mortality.